WHAT IS CLAIMED IS:

1. A system, comprising:

an interference pattern generator to generate, at a first location, an interference pattern including an interference fringe;

a spatial filter to limit, at least in part, the area at the first location actually illuminated by the interference pattern; and

a positioner to displace the actually illuminated area across the first location in a direction crossing the interference fringe and to maintain a substantially constant position of the interference pattern relative to the first location despite the displacement.

2. The system of claim 1, wherein:

the interference pattern generator is to generate an interference pattern to illuminate a substrate at the first location;

the spatial filter is to limit the area of the substrate actually illuminated by the interference pattern; and

the positioner is to displace the actually illuminated area across the substrate in a direction crossing the interference fringe and to maintain the substantially

constant position of the interference pattern relative to the substrate despite the displacement.

3. The system of claim 1, wherein the positioner is to maintain the position of the interference pattern relative to the first location constant to within a pitch of the interference pattern in the illuminated area.

4. The system of claim 3, wherein the positioner is to maintain the position of the interference pattern relative to the first location constant to within 1% of the pitch of the interference pattern in the illuminated area.

5. The system of claim 1, wherein the positioner comprises:

a first positioner to displace the interference pattern in a direction D relative to the spatial filter; and

a second positioner to displace the substrate in the direction D relative to the spatial filter.

6. The system of claim 1, wherein the positioner comprises a spatial filter positioner to displace the spatial filter relative to the interference pattern and the substrate.

7. The system of claim 1, further comprising a pitch controller to control a pitch of the interference pattern.

8. The system of claim 1, wherein the spatial filter comprises an aperture having a first dimension and a second dimension, the first dimension being greater than the second dimension and oriented to allow two or more wavefronts forming the interference pattern to illuminate the substrate at a substantially uniform angle.

9. The system of claim 1, wherein the positioner comprises a closed loop control system to maintain the substantially constant position of the interference pattern relative to the first location.

10. The system of claim 1, wherein the positioner is to displace the actually illuminated area across the first location in a direction substantially perpendicular to the interference fringe.

11. A method, comprising:

generating an interference pattern to illuminate a substrate, the interference pattern including an interference fringe;

limiting the area on the substrate actually illuminated by the interference pattern;

displacing the illuminated area across the substrate in a direction crossing the interference fringe; and

maintaining a substantially constant position of the

interference pattern relative to the substrate despite the displacement of the illuminated area.

12. The method of claim 11, wherein displacing the illuminated area comprises shifting a phase of a wavefront forming the interference pattern.

13. The method of claim 11, wherein maintaining the substantially constant position comprises maintaining the position of the interference pattern relative to the substrate constant to within a pitch of the interference pattern.

14. The method of claim 13, wherein maintaining the substantially constant position comprises maintaining the position of the interference pattern relative to the substrate constant to within 1% of the pitch of the interference pattern.

15. The method of claim 11, further comprising controlling the pitch of the interference pattern upon displacement of the illuminated area across the substrate.

16. The method of claim 15, wherein said controlling the pitch comprises using a pitch of the interference pattern to regulate the pitch in a closed loop.

17. The method of claim 11, wherein limiting the area of the interference pattern comprises interposing a spatial filter in an optical path of the interference pattern to define, at least in part, the illuminated area.

18. The method of claim 17, wherein displacing the illuminated area comprises displacing the interference pattern and the substrate relative to the spatial filter.

19. The method of claim 18, wherein displacing the interference pattern comprises shifting a phase of a wavefront forming the interference pattern.

20. The method of claim 11, wherein maintaining the substantially constant position of the interference pattern relative to the substrate comprises translating the interference pattern at a different speed than the substrate while maintaining the position of the interference pattern relative to the substrate constant to within 1% of a pitch of the interference pattern in the illuminated area.

21. A method, comprising:

generating an interference pattern to illuminate a substrate;

limiting the area on the substrate actually illuminated

by the interference pattern;

displacing the actually illuminated area across the substrate; and

controlling a pitch of the interference pattern across the substrate.

22. The method of claim 21, wherein:

the interference pattern includes an interference fringe; and

displacing the illuminated area comprises displacing the illuminated area across the substrate in a direction crossing the interference fringe.

23. The method of claim 21, wherein:

the method further comprises transducing a position of preexisting features of the substrate; and

controlling the pitch comprises using the transduced position of preexisting features to regulate the pitch in a closed loop.

24. The method of claim 23, wherein:

the method further comprises transducing the pitch of the interference pattern; and

using the control signal comprises using the transduced pitch of the interference pattern to regulate the pitch.

25. The method of claim 21, wherein controlling the pitch of the interference pattern comprises displacing the substrate and the interference pattern at different speeds.

26. A system, comprising:

an interference pattern generator to generate an interference pattern to illuminate a first location;

a spatial filter to limit, at least in part, the area at the first location actually illuminated by the interference pattern; and

a pitch controller to control a pitch of the interference pattern to achieve a desired pitch in the illuminated area.

27. The system of claim 26, further comprising a positioner to displace the illuminated area across the first location.

28. The system of claim 27, wherein:

the interference pattern is to include an interference fringe; and

the positioner comprises a positioner to displace the illuminated area across the first location in a direction crossing the interference fringe.

29. The system of claim 27, wherein the pitch controller comprises a control loop to dynamically control the pitch as the illuminated area is displaced across the substrate.

30. The system of claim 26, wherein the pitch controller is to control the pitch of the interference pattern to achieve a substantially constant pitch in the illuminated area.